

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE J		PAGE OF PAGES 1 2	
2. AMENDMENT/MODIFICATION NO. 0001		3. EFFECTIVE DATE 10-May-2006		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO.(If applicable)	
6. ISSUED BY		CODE		7. ADMINISTERED BY (If other than item 6)		CODE	
NAVSEA INDIAN HEAD 101 STRAUSS AVE. BLDG. 1558 ATTN: LEVONSON (BUDDY) WHITE LEVONSON.WHITE@NAVY.MIL INDIAN HEAD MD 20640-5035		N00174		See Item 6			
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X		9A. AMENDMENT OF SOLICITATION NO. N00174-06-R-0029	
				X		9B. DATED (SEE ITEM 11) 07-Apr-2006	
						10A. MOD. OF CONTRACT/ORDER NO.	
						10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input checked="" type="checkbox"/> is extended, <input type="checkbox"/> is not extended.							
Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).							
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D. OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)							
SEE PAGE TWO.							
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				TEL: _____ EMAIL: _____			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
_____ (Signature of person authorized to sign)				BY _____ (Signature of Contracting Officer)		10-May-2006	

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

This amendment is issued to incorporate drawing 1335AS286 Rev. C., MIL-Z-365-A and answer the following questions submitted.

The closing date is hereby changed to May 17, 2006, 4:00PM, EST.

1. Could you make a copy of MIL-P-25548B available? It can not be found on Assist-on-Line.
REFERENCES TO MIL-P-25548B ARE NOT APPLICABLE TO THIS SOLICITATION.
 2. What packaging is required for this material?
SEE MIL-Z-365A AS MODIFIED BY DWG 133AS286A IAW D.O.T. COMPLIANCE LABELING
 3. MIL-Z-365-A is obsolete. Does it apply to this solicitation?
MIL-Z-365-A IS PROVIDED WITH THIS AMENDMENT.
 4. Page 16 – What is 2-NDPA Sample?
REFERENCES TO ALL (2-NDPA) ACRONYMS ARE NOT APPLICABLE TO THIS SOLICITATION.
 5. Page 17 – C. Price, Factor 1, 2-NDPA Sample. What does 2-NDPA Sample refer to?
REFERENCES TO ALL (2-NDPA) ACRONYMS ARE NOT APPLICABLE TO THIS SOLICITATION.
 6. Particle Size Distribution – Page 4
 - Microtrac SRA Mean Value and SRA values at different percentages are missing from the table.
 - The mass median diameter in microns, 3.5 min and 5.9 max, does not jive with the sieve pass-through requirements which indicate that 75% of the particles should be larger than 75 microns.PARTICLE SIZE AND GRANULATION PROVIDED IN DRAWING 133AS286A. DRAWING SUPERCEEDS MIL-Z-365-A. SEE PAGE 4 OF 54 – ZINC POWDER SAMPLE REQUIREMENTS.
- A. SECTION IHD 211- SECTION M. BEST EVALUATION AND BASIS FOR AWARD, PARAGRAPH A. 2-NDPA SAMPLE is not applicable to this solicitation and is change to read the following: SAMPLE SUBMISSION.
- B. SECTION IHD 211- SECTION M. BEST EVALUATION AND BASIS FOR AWARD, PARAGRAPH C. PRICE, FACTOR 1 – 2-NDPA SAMPLE is not applicable to this solicitation and is change to read the following: SAMPLE SUBMISSION.
- C. DRAWING 1335AS286 REVISION B. IS HEREBY INCORPORATED INTO THIS SOLICITATION.

(End of Summary of Changes)

NOTES:

1. INTERPRET DRAWING IN ACCORDANCE WITH DOD-STD-100.

2. MATERIAL: ZINC-POWDER, SHALL BE IN ACCORDANCE WITH MIL-Z-365, EXCEPT AS FOLLOWS:

A. THE GRANULATION REQUIREMENTS SPECIFIED IN PARA. 3.3 OF MIL-Z-365, ZINC-POWDER, SHALL CONFORM TO THE PARTICLE SIZE DISTRIBUTION REQUIREMENTS SHOW IN TABLE BELOW:

GRANULATION REQUIREMENTS	
SIEVE NUMBER ^{1/}	PERCENT THROUGH
45	100 MINIMUM
100	95 MINIMUM
230	25 MINIMUM

^{1/} USE U.S. STANDARD SIEVES CONFORMING TO RR-S-366.

B. IMPURITIES (OTHER THAN ZINC-OXIDE), AN ALTERNATE METHOD FOR DETERMINING METALLIC IMPURITIES IN ZINC-POWDER, IS GIVEN IN ASTM E27, SPECTRO-GRAPHIC ANALYSIS OF ZINC AND ZINC ALLOYS BY THE SOLUTION RESIDUE TECHNIQUE. INDUCTIVELY COUPLED PLASMA MAY BE SUBSTITUTED FOR A DC ARC EXCITATION SOURCE TO INCREASE REPRODUCIBILITY.

C. IN PARA 4.4.6, LINE 3: A MEDIUM POROSITY GLASS FILTER CRUCIBLE MAY BE USED INSTEAD OF A "GOOCH CRUCIBLE".

D. IN PARA 4.4.6, LINE 10: TOLUENE MAY BE USED INSTEAD OF "BENZENE".

CLASSIFICATION OF CHARACTERISTICS (DOD-STD-2101)
CRITICAL - NONE
MAJOR - NONE
MINOR - ALL CHARACTERISTICS

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
B	REPLACES REV A WITH CHANGE. SEE	6 May 93	<i>[Signature]</i>
	NOR I492044.1		

FIND NO	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO	SPECIFICATION NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL OR NOTE
PARTS LIST						
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				INDIAN HEAD, NO 20648-5035		
TOLERANCE: ANGLES ±				DEPARTMENT OF THE NAVY		
FRACTIONS ±				NAVAL AIR SYSTEMS COMMAND		
2 PLACE DECIMALS ±				WASHINGTON, D.C. 20361		
3 PLACE DECIMALS ±				ZINC-POWDER		
MATERIAL:				SIZE CODE IDENT NO. NAVAIR DRAWING NO.		
1335AS280				D 30003 1335AS286		
NEXT ASSY. USED ON APPLICATION				APPROVED FOR NAVAIR AUTHENTICATED 06 FEB 1986		
				SCALE: NONE SHEET 1 OF 1		

MIL-Z-365A

18 March 1968

Superseding
JAN-Z-365
11 July 1946

MILITARY SPECIFICATION

ZINC - DUST
(FOR USE IN PYROTECHNICS)

This specification is mandatory for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope - This specification covers one grade of zinc-dust for use in pyrotechnics.

2. APPLICABLE DOCUMENTS

* 2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

SPECIFICATIONS

Federal

RR-S-366

Sieve, Test

STANDARDS

Military

MIL-STD-105

Sampling Procedures and Tables for
Inspection by Attributes

FSC 6810

THIS DOCUMENT CONTAINS 12 PAGES

M



MIL-Z-365A

1/ Use U. S. Standard sieves conforming to RR-S-366

* 3.4 Workmanship - This material shall be uniform in quality, free from foreign material, and shall conform to the requirements of this specification.

4. QUALITY ASSURANCE PROVISIONS

* 4.1 Responsibility for inspection - Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

* 4.2 Quality conformance inspection - Conformance of the zinc-dust to the requirements of this specification shall be determined entirely by means of quality conformance inspection. The quality conformance inspection shall consist of an examination for acceptability of quality control methods used by the manufacturer, examining and testing the quality conformance samples (4.3.2) for all of the requirements of this specification, and an examination of the sample of filled containers (4.3.3) for conformance to the packaging, packing, and marking requirements.

* 4.3 Sampling -

4.3.1 Lot size - For the purpose of sampling, a lot of zinc-dust shall consist of a manufacturer's batch (see 6.3). If the material cannot be identified by batch, a lot shall consist of not more than 1,000 pounds of zinc-dust offered for delivery at one time.

4.3.2 Sample for tests - From each lot offered for acceptance under contract, two-one-pound samples of zinc-dust shall be removed from separate unit containers taken at random.

4.3.3 Sample for examination of filled containers - A random sample of filled containers shall be selected from each lot of zinc-dust offered for acceptance under contract, in accordance with MIL-STD-105 at Inspection Level I and an acceptable quality level (AQL) of 2.5 percent defective.

* 4.4 Test methods -

4.4.1 Visual inspection - Conformance of the zinc-dust to the requirements for material (3.1) and workmanship (3.4) shall be determined by visual inspection.



MIL-Z-365A

* 4.4.2 Total zinc - Determine total zinc by the potassium ferrocyanide method.

4.4.2.1 Standardization of Potassium Ferrocyanide Solution - Weigh 0.2 gm of metallic zinc or freshly ignited ZnO , transfer to a 400 ml beaker and dissolve in 10 ml of HCl (sp. gr. 1.18) and 20 ml of water. Drop in a small piece of litmus paper, add NH_4OH until slightly alkaline, then add HCl until just acid and then 3 ml more of HCl. Dilute to about 250 ml with hot water and heat to nearly boiling. Run in the $K_4Fe(CN)_6$ solution, prepared by dissolving 22 gm of $K_4Fe(CN)_6 \cdot 3H_2O$ in water and diluting to 1 liter, slowly while stirring constantly until a drop tested on a white porcelain plate with a drop of uranyl nitrate indicator shows a brown tinge after standing 1 minute. The uranyl nitrate indicator is prepared by dissolving 5gm of $UO_2(NO_3)_2 \cdot 6H_2O$ in 100 ml of water. During the titration the temperature of the solution shall not be allowed to fall below $70^\circ C$.

4.4.2.1.1 A blank shall be run using the same amounts of reagents and water, under the same conditions of temperature, volume, acidity as obtained when the standardization sample (see 4.4.2.1) is titrated.

4.4.2.1.2 Calculation - The strength of the $K_4Fe(CN)_6$ standard solution in terms of grams of zinc is calculated as follows:

Zinc equivalent in grams per milliliter of $K_4Fe(CN)_6$ solution

$$= \frac{W}{T_1 - T_2}$$

where

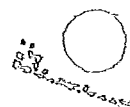
W = weight of zinc sample (or equivalent to the Zn O used)
 T_1 = ml $K_4Fe(CN)_6$ used in titration of sample
 T_2 = ml $K_4Fe(CN)_6$ used in titration of blank

4.4.2.2 Procedure - Weigh accurately 0.25 gm of the powdered zinc, transfer to a 400 ml beaker, moisten with alcohol and dissolve in 10 ml of HCl (sp. gr. 1.18) and 20 ml of water. Continue with the procedure used in 4.4.2.1, beginning with the addition of litmus paper and adjustment of the acidity with NH_4OH and HCl.

4.4.2.3 Calculation - Calculate the percentage of total zinc by the following formula:

$$\text{Percentage of total zinc} = \frac{(X - X_1)B \times 100}{W}$$

X = ml $K_4Fe(CN)_6$ used in titration of sample
 X_1 = $K_4Fe(CN)_6$ used in titration of blank
 B = Zinc equivalent in grams per milliliters of $K_4Fe(CN)_6$ solution (see 4.4.2.1.2)



MIL-Z-365A

4.4.3 Metallic Zinc - Determine metallic zinc by the hydrogen evolution method.

4.4.3.1 Apparatus - Assemble apparatus as shown on figure 1. Calibrate the bulb D to include capacity from stopcock E to the zero reading of the burette. Also calibrate capacity of flask A and tubes to stopcocks E and B. Saturate the water in leveling bulb F and measuring tube D with hydrogen at room temperature and pressure.

4.4.3.2 Procedure -

4.4.3.2.1 Total Hydrogen evolved - Weigh accurately 1.15 gm of the powdered zinc, transfer to flask A, and about 5.0 gm pure ferrous ammonium sulfate, a piece of sheet platinum having a total about 5 sq cm, and an amount of water exactly 100 ml less than the capacity of the flask and tubes and connect the apparatus as shown on figure 1. Open cocks B and E, raise F to bring the water in the burette to cock E and then close E and B. This leaves 100 ml of air in the apparatus. Read the temperature and barometric pressure and calculate the gas volume to standard temperature and pressure by the following formula:

$$V = \frac{Pv}{760} \times \frac{1}{1 + 0.00367t}$$

where

V = corrected volume

v = original volume

P = barometer reading in mm corrected for the vapor pressure of water at $t^{\circ}\text{C.}$ ^{1/}

t = temperature in degrees C

0.00367 = coefficient of expansion of hydrogen and air for each degree rise in temperature.

Now pour 43 ml of 1:1 sulfuric acid into the thistle tube, lower F, open cock E and allow the acid to run into flask A partially opening cock B. During the admission of the acid, avoid admission of air. Close cock B and allow the apparatus to stand until the gas volume becomes constant, keeping the level of the liquid in F and D fairly equal throughout the evolution to avoid leakage and hydrogen solubility changes due to pressure differences. The evolution is complete in about 3 hours. Calculate the total volume of gas in the apparatus by adding 60 ml to the gas measuring apparatus reading. This 60 ml is the volume of the gas in the flask A remaining after the addition of 43 ml of acid. (The 43 ml of 1:1 sulfuric acid adds 40 ml to the liquid due to shrinkage of mixing). Read the

^{1/} In order to evaluate the vapor pressure of water, since A contains acid and the measuring tube contains water, it may be assumed that the entire static system is over water.



MIL-Z-365A

temperature and the barometric pressure and correct the total gas volume by the preceding formula for deviations from standard temperature (0°C) and pressure (760 mm). Subtract from the corrected volume the corrected volume of gas originally in the apparatus. Add to the remainder 2.0 ml to correct for the solubility of hydrogen in the solution in flask A. The sum is the hydrogen evolved at standard temperature and pressure.

* 4.4.3.2.2 Impurities - For accurate results, the volume of hydrogen evolved (see 4.4.3.2.1) must be corrected for the hydrogen evolved by iron which is usually present, and for tin which may be present. To make these corrections, assemble apparatus as shown on figure 2.

* 4.4.3.2.2.1 Iron - Weigh accurately and place in flask B, approximately 11.5 gm of the sample, add a piece of sheet platinum an area of about 5 sq cm and close the apparatus tightly. Pass nitrogen through the apparatus until the air is entirely removed. Close pinchcock G and stop the flow of nitrogen. Add 125 ml of water through separatory funnel E to flask B, then add dropwise through the separatory funnel 50 ml of concentrated sulfuric acid. During the addition of the acid, keep the contents of the flask at or below room temperature by means of an ice bath. After the addition of the acid, allow the flask to stand for the length of time required for the hydrogen evolution in the determination of metallic zinc. (This usually requires 3 hours.) Open pinchcock G and draw the contents of flask B through the asbestos mat in tared filter F and into flask B¹ by means of suction applied at H. Wash flask B four times by adding 50-ml portions of water, shaking and drawing over into flask B¹. Remove the stopper from flask B¹ and titrate immediately with potassium permanganate solution to a pink color permanent for one minute. Calculate the reducing matter as percentage of iron by the following formula:

$$\text{Reducing matter calculated as percentage of Fe} = \frac{5.584 AN}{W}$$

where

A = ml KMnO_4 used in titration
 N = normality of KMnO_4 solution
 W = weight of zinc-dust sample

4.4.3.2.2.2 - Residue - Complete the washing of the residue in the tared filter F (see 4.4.3.2.2.1) and dry at 105° to 110°C., cool in a desiccator and weigh. Calculate the percentage of residue insoluble in dilute sulfuric acid by the following formula:

$$\text{Percentage of residue} = \frac{100A}{W}$$

where

A = weight of dried residue
 W = weight of zinc-dust sample



MIL-Z-365A

* 4.4.3.2.2.3 - Tin Transfer the titrated solution from flask B¹ (see 4.4.3.2.2.1) to a 600 ml beaker. Add NH₄OH until just alkaline, then add 5 ml of HCl or 5 ml of H₂SO₄(1:3) for each 100 ml of solution. Cover the beaker, place it on a hot plate, heat to about 95°C, then pass in a slow stream of H₂S for 1 hour, digest for 1 hour and allow to stand one-half hour longer. Filter, and wash the precipitate of SnS alternately with three portions each of wash solution (100 ml of saturated NH₄C₂H₃O₂ solution, 50 ml of glacial HC₂H₃O₂, and 850 ml of water) and hot water. Transfer the filter paper and precipitate to a 50-ml beaker, add 10 to 20 ml of ammonium polysulfide, heat to boiling, and filter. Repeat twice the digestion with ammonium polysulfide and the filtration, then wash the filter with hot water. Acidify the combined filtrate and washings with HC₂H₃O₂ (1:9), digest on a hot plate for one hour, allow to stand overnight, and filter through an ignited, cooled and weighed Gooch crucible with a suitable asbestos pad. Wash alternately with two portions each of the wash solution and hot water and dry thoroughly. Ignite over a Bunsen flame, very carefully at first to convert the sulfide to the oxide; then partly cover the crucible and heat strongly over a large Bunsen or Meker burner. (SnS must be converted carefully to the oxide, which may be heated to a high temperature without loss by volatilization.) Weigh as SnO₂ and calculate percentage of metallic tin by the following formula:

$$\text{Percentage of Sn} = \frac{78.77 A}{W}$$

where

A = weight of dried residue
W = weight of sample

* 4.4.3.3 Calculations - Multiply the percentage of tin (see 4.4.3.2.2.3) by 0.94 and subtract the result from the reducing matter calculated as percentage of iron (see. 4.4.3.2.2.1). The remainder is percentage of metallic iron. Correct the evolved hydrogen at standard temperature and pressure (see. 4.4.3.2) for the iron and tin present in the sample taken for the determination of metallic zinc on the basis that 0.01 gm metallic iron evolves 4.012 ml of hydrogen and 0.01 gm metallic tin evolves 1.887 ml hydrogen at standard temperature and pressure. Calculate the volume corrected for the iron and tin present as metallic zinc by the following formula:

$$\text{Percentage of metallic zinc} = \frac{0.29188 M}{W}$$

where

M = ml of hydrogen corrected to standard temperature and pressure
W = weight of sample

The sum of the percentages of residue, iron and tin, equals the percentage of impurities other than zinc oxide.

MIL-Z-365A

* 4.4.4 Zinc oxide - Determine zinc oxide by difference between percentage total zinc and percentage metallic zinc

4.4.4.1 Calculation - Calculate the percentage of zinc oxide by the following formula:

$$\text{Percentage of zinc oxide} = (A-B) 1.2447$$

where

A = Percentage of total zinc
B = Percentage of metallic zinc

4.4.5 Moisture and other volatile matter - Weigh approximately 10.000 gm of the sample in a tared, glass-stoppered weighing bottle, approximately 50 mm in diameter by 30 mm high. Remove the stopper and heat for 2 hours in an oven at 100°C to 105°C. Cool in a desiccator and weigh. Calculate the loss in weight as percentage of moisture.

4.4.6 Matter soluble in organic-solvent mixture - Transfer 25 gm of zinc-dust to a 250-ml beaker, add 100 ml of dry solvent, stir with a glass rod for 2 minutes and filter through a Gooch crucible, prepared with an asbestos pad, into a 200-ml tared beaker. Evaporate the solvent on a steam bath, dry the beaker in an oven at 100° to 105°C. for 1 hour, cool in a desiccator and weigh. One hundred ml of the solvent mixture, when treated as specified, shall leave no weighable residue.

Organic solvent mixture
10 volumes ethyl ether
6 volumes benzene
4 volumes methanol (95-100 percent)
1 volume acetone

The solvent mixture shall be neutral. If it tests either acid or alkaline, it should be purified by shaking with pure zinc-dust, decanting therefrom and distilling.

4.4.7 Granulation - Fit three sieves, Nos. 100, 200, and 230 U. S. Standard series, together in the order of decreasing mesh size placing the coarsest mesh on top and a receiving pan at the bottom. Place a weighed portion of 100.0 gm of the zinc-dust sample on the upper sieve, cover the upper sieve, and shake for 5 minutes by means of a mechanical shaker geared to produce 300 ± 15 gyrations and 150 ± 10 taps of the striker per minute. Weigh the quantity retained on each sieve and calculate the percentage of zinc-dust that has passed through each sieve and checked for conformance to table II.

* 4.5 Rejection criteria - If a sample fails to meet any of the test requirements of this specification, the lot represented by the sample shall be rejected.

RECEIVED
FEB 10 1968
U.S. ARMY
CORPUS CHRISTI, TEXAS

5. PREPARATION FOR DELIVERY

* 5.1 Packaging - Unless otherwise specified (see 6.2) zinc-dust shall be packaged at Level C.

5.1.1 Level C - The zinc-dust shall be unit packaged in clean, dry containers of the size and type specified by the purchase order or contract. The zinc-dust shall be packaged to afford the minimum degree of protection necessary to prevent deterioration or damage during shipment under normal environmental conditions and commercial modes of transportation.

* 5.2 Packing - Unless otherwise specified (See 6.2) zinc-dust shall be packed at Level C.

5.2.1 Level C - Zinc-dust packaged in accordance with 5.1.1, that requires overpacking, shall be packed in exterior type containers in such a manner as to insure carrier acceptance and safe delivery to destination. Containers shall be in compliance with rules and regulations applicable to the mode of transportation selected.

* 5.3 Marking - In addition to any markings required by contract or order, unit packages and shipping containers shall be marked in accordance with the requirements of MIL-STD-129.

6. NOTES

6.1 Intended use - Metallic zinc powder, commercially known as zinc dust, covered by this specification, is intended for use in pyrotechnics.

6.2 Ordering data - Procurement documents should specify the following:

- (a) Title, number and date of this specification
- (b) Quantity required in pounds
- (c) Applicable levels of packaging, packing and markings, with requirements in detail, if other than specified in Section 5
- (d) Size and type of container (see 5.1.1)

* 6.3 Batch - A batch is defined as that quantity of material which has been subjected to some unit chemical or physical mixing process intended to make the final product substantially uniform.

* 6.4 Metallic zinc - A rapid method for determining metallic zinc is given in ASTM D521, Chemical Analysis of Zinc Dust. The results are inclined to be somewhat low. For the highest accuracy, the hydrogen evolution method detailed in 4.4.3 should be used.



MIL-Z-365A

* 6.5 Supersession data - The material furnished under MIL-Z-365A has chemical and physical requirements identical to that furnished under the previous issue, JAN-Z-365, dated 11 July 1946.

* 6.6 Changes from previous issue - The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, correction, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:

Army - MU
Navy - OS
Air Force - 68

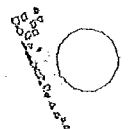
Preparing Activity:

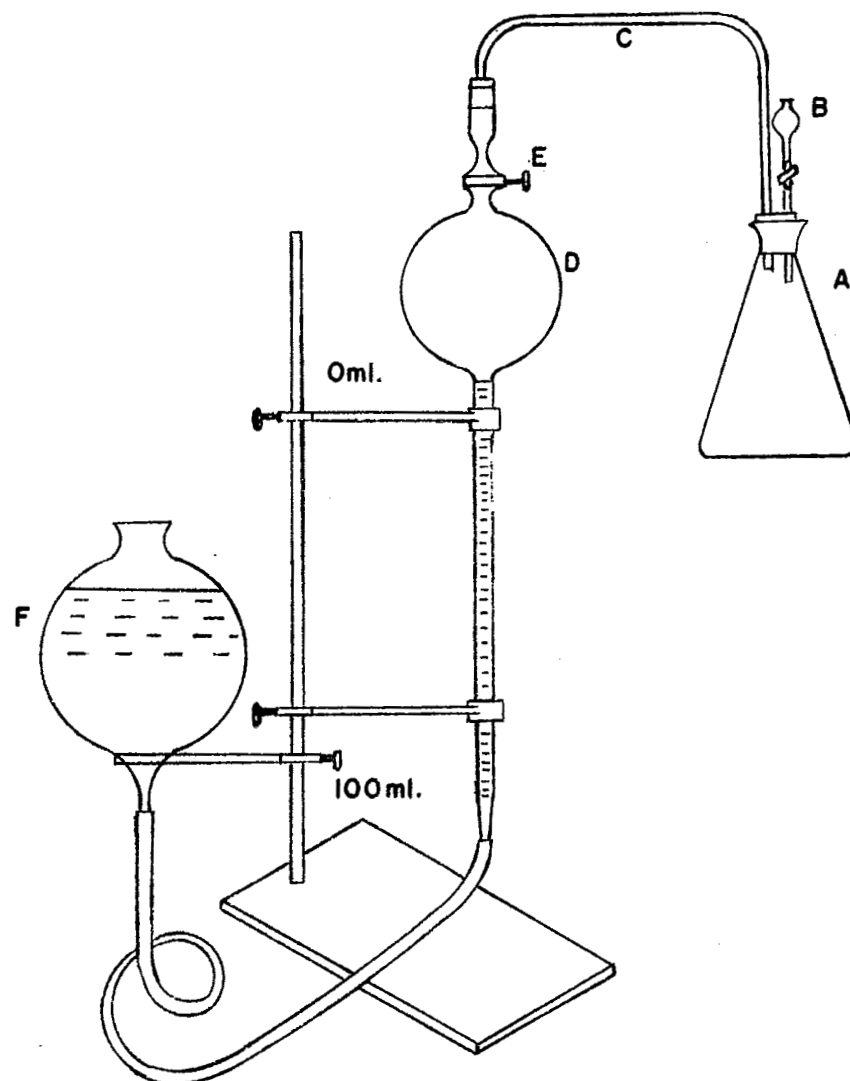
Navy - OS
Project No. 6810-0366

Review activities:

Army - MU, WC
Navy - OS, AS
Air Force - 68
DSA-GS

Army - MI, SM



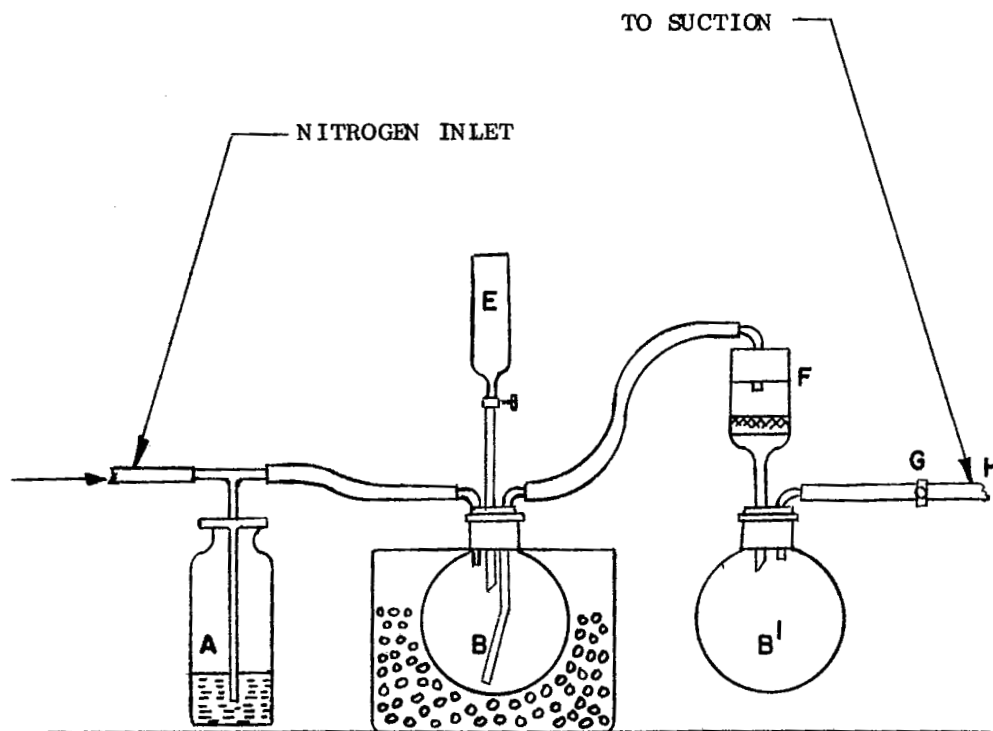


- A- Flask-Actual capacity when filled to stopper 220 ml
- B- Thistle tube with stopcock
- C- Glass tubing connection
- D- Bulb of 400 ml capacity with gas burette graduated from 0 to 100 ml in 0.2 ml subdivision
- E- Stopcock for gas burette
- F- Leveling Bulb

Figure 1--Determination of Metallic Zinc.
Apparatus for the Measurement of Total Hydrogen Evolved.



MIL-Z-365A



- A -WIDE MOUTH BOTTLE, 16 OUNCES, CONTAINING 2 INCHES OF WATER
 B AND B¹ -ROUND BOTTOM RING NECK FLASKS, 500- ml
 E -SEPARATORY FUNNEL, 60-ml, WITH 15-cm STEM
 F -FRITTED GLASS FILTER 1 1/2 INCHES IN DIAMETER, PROVIDED WITH AN ASBESTOS MAT.
 G -PINCHCOCK

FIGURE 2--DETERMINATION OF METALLIC ZINC, APPARATUS FOR DETERMINATION OF IRON AND TIN.

100-100000-000
 100-100000-000